

Listing of the Claims

1. (Currently Amended) A system for magnetic resonance imaging, comprising:
 - a substantially cylindrical cavity (2);
 - wherein the cavity (2) has an axis of symmetry in the direction of a z-axis;
 - wherein a subject (3) can be examined within the cavity;
 - wherein the subject (3) has a conductance which is not isotropic in an xy-plane which is perpendicular to the z-axis;

~~characterized in that~~ wherein an electrically conductive material (4) is placed within the cavity (2), wherein the material (4) has a conductivity and a thickness which render the total conductance in the xy-plane within the cavity to be isotropic.
2. (Currently Amended) A system according to claim 1, ~~characterized in that~~ wherein the system is a magnetic resonance imaging apparatus or a radio frequency (RF) coil for magnetic resonance imaging.
3. (Currently Amended) A system according to claim 2, ~~characterized in that~~ wherein at least a part of the material (4) is attached to an inner wall (5) of the cylindrical cavity (2).
4. (Currently Amended) A system according to claim 1, ~~characterized in that~~ wherein at least a part of the material (4) is attached to a bottom (6) of a substantially plane surface (7) on which the subject (3) can be positioned.
5. (Currently Amended) A system according to claim 4, ~~characterized in that~~ wherein the substantially plane surface (7) is part of a patient's bed.
6. (Currently Amended) A system according to claim 3, ~~4 or 5, characterized in that~~ wherein the electrically conductive material (4) is removably attached within the cavity (2).

7. (Currently Amended) A system according to claim 1, ~~characterized in that~~
wherein the material (4) is substantially above and below a substantially plane surface (7)
on which the subject (3) can be positioned.

8. (Currently Amended) A system according to claim 1, ~~characterized in that~~
wherein the material (4) has a planar resistance between about 5 Ω and about 20 Ω .

9. (Currently Amended) A system according to claim 7, ~~characterized in that~~
wherein the material above the subject (3) has a planar resistance between about 5 Ω and
about 10 Ω .

10. (Currently Amended) A system according to claim 7, ~~characterized in that~~
wherein the material below the subject (3) has a planar resistance between about 12 Ω and
about 16 Ω .

11. (Currently Amended) A system according to claim 1, ~~characterized in that~~
wherein the material (4) is a sheet (8) being covered by a conductive layer (9).

12. (Currently Amended) A system according to claim 11, ~~characterized in that~~
wherein only predetermined parts of the sheet (8) are covered by a conductive layer (9).

13. (Currently Amended) A system according to claim 1, ~~characterized in that~~
wherein it is arranged to operate with magnetic fields at or above 3 tesla.